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(54) Title: MODULATORS OF THE ABC TRANSPORTER FAMILY AND METHODS FOR THEIR USE

(57) Abstract: An isolated factor derived from the bacterium *Pseudomonas aeruginosa* that reduces expression of ABC transmembrane proteins and active fragments and mimetics thereof are provided. Also provided is a method for inhibiting expression of ABC transmembrane proteins in cells by administering to the cells the isolated factor or active fragment or a mimetic thereof. Such methods are useful in the enhancing delivery of small molecule therapeutic agents to the CNS and in treating cancers, particularly multidrug resistant cancers, and secretory diarrhea. In addition, compositions, methods for identifying compositions and methods for use of compositions which inhibit suppression of ABC transmembrane protein expression by this factor are provided. Such compositions and methods are useful in treatment of cystic fibrosis.